UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,662	04/05/2001	Prasad R. Vishnubhotla	AUS920010258US1	3497

34533   7590   11/04/2003

BIGGERS & OHANIAN, PLLC
5 SCARLET RIDGE
AUSTIN, TX 78737

EXAMINER
PHAM, KHANH B

ART UNIT	PAPER NUMBER
2177	

DATE MAILED: 11/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _16 September 2003_ .

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-60_ is/are pending in the application.

　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-60_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

　If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　a) ☐ All b) ☐ Some * c) ☐ None of:

　　1. ☐ Certified copies of the priority documents have been received.

　　2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

　　3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

　a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)　　　　　4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)　5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .　6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form

the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-60 are rejected under 35 U.S.C. 102(e)** as being anticipated by Tamayo

et al. (US 2002/0083067 A1), hereinafter referred to as "Tamayo".

As per claim 1, Tamayo teaches a method of developing a domain-specific

analytic application having at least one predefined data mining model, comprising the

steps of:

- "identifying a business problem to be solved" at page 5, [0059];

- "selecting a data mining algorithm appropriate for solving the business problem" at page 5, [0059];

- "defining data schema for use as inputs and outputs to and from the mining algorithm, the data schema including input data schema and output data schema" at page 5, [0059] and page 6, [0072];

- "defining a data mining model dependent upon the data schema, defining a data mining model resulting in the creation of a predefined data mining model" at page 7-8, [0088] and [0094];

- whereby a domain-specific analytic application is developed, the analytic application having at least one predefined data mining model" at page 7-8, [0094] and Fig. 10.

As per claim 2, Tamayo teaches the method of claim 1 wherein the analytic application comprises the capabilities of:

- production training the predefined data mining model using the historical data in the input data schema, wherein use of the capability of production training the predefined data mining model results in creation of a production trained data mining model" at page 6, [0084];

- "and production scoring production data by use of the production trained data mining model" at page 6, [0073].

As per claim 3, Tamayo teaches the method of claim 2 wherein "the capability of production training the predefined data mining model further comprises the capability of operating the predefined data mining model in training mode using end user historical data in the input data schema" at page 6, [0084].

As per claim 4, Tamayo teaches the method of claim 2 wherein "the capability of production scoring production data by use of the production trained data mining model

further comprises the capability of applying the production trained data mining model to historical data stored in input schema" at page 6, [0084].

As per claim 5, Tamayo teaches the method of claim 2 wherein "the capability of production scoring production data by use of the production trained data mining model further comprises the capability of applying the production trained data mining model to production data stored read from an end user's production database" at page 7-8, [0094].

As per claim 6, Tamayo teaches the method of claim 1 wherein "the analytic application further comprises the capability of populating the input data schema with historical data" at page 6, [0081]-[0082].

As per claim 7, Tamayo teaches the method of claim 6 wherein "the capability of populating the input data schema with historical data further comprises the capabilities of extracting from historical data values of prediction data fields and writing the values of the prediction data fields into the input data schema for the data mining model" at page 6, [0081]-[0082].

As per claim 8, Tamayo teaches the method of claim 1 wherein "identifying a business problem to be solved further comprises identifying a business problem capable of expression through the use of referents that are defined in a specific computational domain" at page 5, [0059].

As per claim 9, Tamayo teaches the method of claim 1 wherein "selecting a mining algorithm appropriate for solving the business problem further comprises selecting a radial basis function algorithm for value prediction" at 10, [0114].

As per claim 10, Tamayo teaches the method of claim 1 wherein "selecting a mining algorithm appropriate for solving the business problem further comprises selecting a neural value prediction algorithm" at page 5, [0059].

As per claim 11, Tamayo teaches the method of claim 1 wherein "selecting a mining algorithm appropriate for solving the business problem further comprises selecting a demographic clustering algorithm" at page 5, [0059].

As per claim 12, Tamayo teaches the method of claim 1 wherein "selecting a mining algorithm appropriate for solving the business problem further comprises selecting a neural clustering algorithm" at page 5, [0059].

As per claim 13, Tamayo teaches the method of claim 1 wherein "selecting a mining algorithm appropriate for solving the business problem further comprises selecting a tree classification algorithm" at page 5, [0059].

As per claim 14, Tamayo teaches the method of claim 1 wherein "selecting a mining algorithm appropriate for solving the business problem further comprises selecting a neural classification algorithm" at page 5, [0059].

As per claim 15, Tamayo teaches the method of claim 1 wherein "selecting a mining algorithm appropriate for solving the business problem further comprises selecting an associations algorithm" at page 5, [0059].

As per claim 16, Tamayo teaches the method of claim 1 wherein "defining data schema for the mining algorithm further comprises the steps of: selecting from historical data for inclusion in input data schema predictor fields capable of supporting the use of a data mining algorithm in predicting the value of a prediction field; and selecting for inclusion in output data schema at least one prediction field" at page 6, [0081]-[0082].

As per claim 17, Tamayo teaches the method of claim 1 wherein "defining data schema for the mining algorithm further comprises selecting for inclusion in output schema sufficient key fields to comprise a unique key for identification in production data of storage locations for the output data from the data mining algorithm" at page 15, [0219].

As per claim 18, Tamayo teaches the method of claim 1 wherein "defining a data mining model based on the data schema further comprises establishing in a data structure comprising the data mining model definition values for fields defining the model" at page 14, [0173-0207]].

As per claim 19, Tamayo teaches the method of claim 18 wherein fields defining the model comprise:

- "a field representing the number of consecutive records to select from the input data schema to be used for training" at page 10, [0114] ;

- "a field representing the number of consecutive records to select from the input data schema to be used for development scoring" at page 12, [0152];

- "a field limiting the number of times the data mining model goes through its input data in training mode" at page 12, [0148];

- "a field limiting the number of fitting centers created by the mining data mining algorithm at each pass through the input data" at page 11, [0128]-[0136];

- "a field indicating the minimum number of records to be assigned to a region" at Col. 12, [0151];

- "a field identifying at least one predictor field; and a field identifying a prediction field" at page 12, [0146].

As per claim 20, Tamayo teaches the method of claim 1 wherein defining a data mining model based on the data schema further comprises the steps of:

- "establishing in a data structure comprising the data mining model definition values for fields defining the model" at page 10, [0114];

- "development scoring historical data wherein test output data is created; and testing the test output data for accuracy wherein an accuracy valuation is created" at page 6, [0071]-[0073];

- "wherein the steps of establishing definition values, development scoring, and

  testing are repeated until the accuracy valuation meets a predetermined

  accuracy requirement" at page 10, [0125].

Claims 21-40 recite "a system" comprising means similar to the method of claims 1-

20. Therefore, claims 21-40 are rejected by the same rational as stated in the rejection

of claims 1-20 above.

Claims 41-60 recite "a computer program product" comprising means similar to the

method of claims 1-20. Therefore, claims 41-60 are rejected by the same rational as

stated in the rejection of claims 1-20 above.

Telephone Interview

3. Applicant's representative called The Examiner on September 10, 2003 to request a

telephone interview. Since the application was unavailable at the time, the examiner

suggested Applicant to file an Official respond to submit the arguments regarding the

rejection of claims 1-60. The merits of the claims have not been discussed. No

agreement was reached.

Response to Arguments

4. Applicant's arguments filed September 16, 2003 have been fully considered but they

are not persuasive. The Examiner respectfully traverses Applicant's arguments.

Applicant argued that Tamayo (US 2002/0083067 A1) does not teach the step of:

"Identifying a business problem to be solved". On the contrary, Tamayo identifies

several corporate and database mining problems which could be solved using data

mining method such as: "risk assessment, attrition and retention modeling, campaign marketing, fraud detection, customer profiling, profitability and cross-selling"(page 5, [0059].

Applicant argued that Tamayo does not teach the step of: "**selecting a data mining algorithm appropriate for solving the business problem**". On the contrary, Tamayo teaches three different algorithms for solving three different types of problem: "supervised learning, association analysis and clustering" ([0059]). Tamayo also discussed how to select a particular algorithm for solving a specific business problem as follows:

- "In the supervised learning approach, one particular column provides the "target" that is used as the dependent variable for the Dada Mining Model"

- "Association model attempts to find associations… Association analysis is applied to transaction or market basket typically. "

- "Clustering is used for data-reduction and for class discovery… Clustering can be applied to both account or transaction based dataset" [0059].

Applicant argued that Tamayo does not teach the step of: "**defining data schema for use as inputs and outputs to and from the mining algorithm**". On the contrary, Tamayo teaches the step of defining data schema for use as inputs as follows:

"All the relevant information for each user is merged and

consolidated in one record. An input dataset then look like a

large, mostly populated two-dimensional table where the columns

correspond to attributes. In the supervised learning approach,

one particular column provides the 'target' that is used as the

dependent variable for the Data Mining model" [0059]. This teaching of

input data schema is consistent with applicant definition of data schema reproduced

below:

"Data schema" are data structures, defined aggregates of data elements. In this

specification, the term "data schema" is used to refer both to schema and to data stores

fashioned in dependence upon schema. The terms "fields" and "data element" are used

as synonyms. The term "record" is used to refer to specific instances of data schema".

(Applicant's Specification, pages 10-11.)

Tamayo also teaches a specific example for a personalization application in

which user's activities are stored into a schema to be used as an input to the mining

algorithm and the output of the mining algorithm is a scored list of recommendation (i.e.,

output schema.) at page 6, [0072].

Applicant argued that Tamayo does not teach the step of: "defining a data mining

model dependent upon the data schema, defining a data mining model resulting in the

creation of a predefined data mining model". On the contrary, Tamayo teaches several

different data models such as: "supervised learning model 1022,

clustering model 1024, association model 1026, and statistical

analysis model 1028. System 1000 includes a plurality of trained

data mining models, such as statistical summaries 1030,

association rules 1032, clusters/segments 1034, and scoring

models and rules 1036, as well as reports, visualizations,

scores and deployed models that are included in block 1040.

Theses models are predefined and stored in the system 1000 as showed in Tamayo's

Fig. 10. Tamayo also teaches that the data mining models dependent upon the data

schema as follows:

"Data preprocessing engine 903 provides the extraction and

transformation components, which extract data from web logs and

other corporate information sources and transform it into a form

suitable for **data mining model construction**."[0088].

Applicant argued that Tamayo does not teach: "whereby a domain specific

analytic application is developed, the analytic application having at least one predefined

data mining model". On the contrary, as discussed in the preceding argument, Tamayo

teaches a domain specific analytic application (i.e., the real time recommendation

engine to generate dynamic web pages, prediction, and recommendations), wherein

"the analytic application having at least one predefined data mining model (i.e.,

supervised learning model 1022, clustering model 1024,

association model 1026, and statistical analysis model 1028.)

In light of the foregoing arguments, the 35 U.S.C 102 rejection is hereby

sustained.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Khanh B. Pham whose telephone number is (703) 308-

7299. The examiner can normally be reached on Monday through Friday 7:30am to

4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John E Breene can be reached on (703) 305-9790. The fax phone number

for the organization where this application or proceeding is assigned is (703) 872-9306.
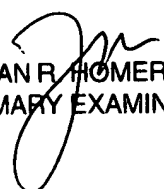
Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703)746-

7240.

Khanh B. Pham
Examiner
Art Unit 2177

KBP
October 28, 2003

JEAN R HOMERE
PRIMARY EXAMINER